

REMARKS

In an Office Action dated December 30, 2003 (paper no. 10), the Examiner rejected claims 1-4, 7, 8, and 10-14 under 35 U.S.C. §103(a) as being unpatentable over Yu (U.S. patent no. 6,078,943) in view of Dias et al. (U.S. patent no. 6,119,143, hereinafter referred to as "Dias") and further in view of Devarakonda (U.S. patent no. 6,195,680). The Examiner rejected claim 5 under 35 U.S.C. §103(a) as being unpatentable over Yu in view of Dias and Devarakonda and further in view of Adelman et al. (U.S. patent no. 6,006,259). The Examiner rejected claim 6 under 35 U.S.C. §103(a) as being unpatentable over Yu in view of Dias and Devarakonda and further in view of Attanasio et al. (U.S. patent no. 5,918,017) and Fine (U.S. patent no. 4,894,846). The Examiner rejected claim 9 under 35 U.S.C. §103(a) as being unpatentable over Yu in view of Goldszmidt and Devarakonda and further in view of the applicants' admitted prior art. The rejections are traversed and reconsideration is hereby respectfully requested.

The Examiner rejected claims 1-4, 7, 8, and 10-14 under 35 U.S.C. §103(a) as being unpatentable over Yu in view of Dias and further in view of Devarakonda. Specifically, with respect to claim 1, the Examiner stated that Yu teaches a communication system network having multiple servers (FIG. 1, ref. nos. 54), each of the servers having a load level based on serving a number of clients in the communication system network (col. 1, lines 9-11 and 28-30), the method including steps of grouping the multiple servers into a first server group (col. 4, lines 52-53), wherein the first server group has load level less than a load level of the second server group (col. 3, lines 53-55 and col. 6, lines 55-58), calculating a time period T (col. 3, line 1), assigning load to a server selected from servers in the first server group from an initial time until expiration of the time period T (col. 2, lines 25-27 and 58-60).

The Examiner acknowledged that Yu does not teach grouping the multiple servers into a first server group and a second server group. However, the Examiner contended that Dias teaches grouping multiple servers into a first server group and a second server group (col. 2, lines 58-65; col. 3, lines 3-5; and col. 4, lines 20-22) and that it would have

been obvious to one of ordinary skill in the art to modify Yu by grouping the multiple servers into first and second server groups because the creation of server groups based on server load allows a request to be sent to a group where all servers within the group are just as capable of processing the request without overload. The Examiner then acknowledged that Yu and Dias combined do not teach assigning a load to a server after time T. However, Examiner contended that Devarakonda teaches assigning load to a server selected from servers in the first and second server groups after expiration of the time period T (col. 2, lines 52-57).

The applicants respectfully disagree with the Examiner's interpretation of Yu, Dias, and Devarakonda. As acknowledged by the Examiner, nowhere does Yu teach the limitations of claim 1 of grouping multiple servers into multiple groups of servers, that is, into a first server group and a second server group. Therefore, Yu cannot teach, as it is alleged to teach by the Examiner, grouping the multiple servers into a first server group *wherein the first server group has load level less than a load level of the second server group*. Nowhere does the Examiner contend that this limitation is taught by Dias either. Accordingly, nowhere does the prior art teach the limitation of claim 1 of grouping the multiple servers into a first and second server groups, wherein the first server group has load level less than a load level of the second server group.

The Examiner contended that Dias teaches grouping multiple servers into a first server group and a second server group (col. 2, lines 58-65; col. 3, lines 3-5; and col. 4, lines 20-22) and that it would have been obvious to one of ordinary skill in the art to modify Yu by grouping the multiple servers into first and second server groups because the creation of server groups based on server load allows a request to be sent to a group where all servers within the group are just as capable of processing the request without overload.

Dias addresses a problem wherein a source IP address may be associated with multiple clients that are hidden behind that address. As a result, various IP addresses may generate significantly different quantities of requests while each such IP address looks the same to a load distributor. In order to resolve the potential load distribution problem, Dias discloses a method for load balancing by clustering *clients*, or source IP addresses,

that source requests to servers, into groups. (See the Abstract; col. 1, lines 22-23; col. 2, lines 59-63; col. 4, line 62, to col. 5, line 17; col. 5, lines 35-42.) After clustering the data sources into groups, Dias then teaches distributing the requests from each data source in a group, that is, from the clients or source IP addresses assigned to a group, among all of the servers in a traditional round robin fashion. (See col. 4, line 62, to col. 5, line 17.) For example, Dias, in column 4, line 62, to column 5, line 17, provides six sources (A, B, C, D, E, and F) and three (or four) servers (1, 2, 3, and 4). The six sources are grouped into two groups, a first tier (A, D) and a second tier (B, C, E, and F). The requests generated by each group, or tier, are then mapped to the servers in a traditional round robin fashion. This is in contrast to claim 1, which provides for grouping of destination *servers* into multiple server groups and then making load distribution adjustments based on time.

Devarakonda teaches only a single group, or cluster, of servers (500) and a method for routing client requests among the cluster of servers. The section of Devarakonda cited by the Examiner (col. 2, lines 52-57) is merely a review of a round robin load balancing system of the prior art, wherein all received client requests are directed to a single group of servers during each predetermined time period and upon expiration of each such predetermined time period are directed to a next group of servers. Nowhere does Devarakonda teach the limitations of claim 1 of assigning load to a server selected from servers in the first server groups from an initial time until expiration of the time period T and assigning load to a server selected from servers in the first and second server groups after expiration of the time period T.

Therefore, none of Yu, Dias, or, Devarakonda, individually or in combination, teach the limitations of claim 1 of grouping multiple servers into first and second server groups, wherein the first server group has load level less than load level of the second server group, assigning load to a server selected from servers in the first server group from an initial time until expiration to the time period T, and assigning load to a server selected from servers in the first and second server groups after expiration of the time period T. Accordingly, the applicants respectfully request that claim 1 may now be passed to allowance.

Each of claims 2-4 includes limitations of grouping multiple servers into multiple server groups, wherein each server group has load level different than the load level of the other server groups, calculating multiple time periods, assigning load to a server selected from a first server group of the multiple server groups in a first time period, and assigning load to a server selected from the first server group or another server group of the multiple server groups in a subsequent time period. As noted above, none of these limitations are taught by any of Yu, Dias, or, Devarakonda, individually or in combination. Accordingly, the applicants respectfully request that claims 2-4 may now be passed to allowance.

Since claims 5-14 depend upon allowable claim 4, the applicants respectfully request that claims 5-14 may now be passed to allowance.

As the applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the Examiner, the applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter.

Respectfully submitted,

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